

Lincoln Center Environmental Remediation Trust

February 23, 2005

VIA HAND-DELIVERY

Mr. Thomas R. Pinkos, Executive Officer
California Regional Water Quality Control Board,
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, California 95670-6114

**Re: Comments of the Lincoln Center Environmental Remediation Trust Regarding
Tentative Waste Discharge Requirements (NPDES No. CA 0084255) and Tentative
Time Schedule Order**

Dear Mr. Pinkos:

The Lincoln Center Environmental Remediation Trust (the "Trust") is pleased to provide the California Regional Water Quality Control Board, Central Valley Region ("Regional Board") with comments regarding the Tentative National Pollutant Discharge Elimination System ("NPDES") Waste Discharge Requirements ("Draft Permit") and Tentative Time Schedule Order ("TSO") circulated for public comment by the Regional Board on January 7, 2005, for discharges of treated groundwater by the Trust.

Under the terms of a Consent Decree issued by the federal District Court, the Trust was created as an impartial entity to perform remedial activities in soil and groundwater under and in the vicinity of Lincoln Center relying on the provisions of the National Contingency Plan (the "NCP"). Correspondingly, the Trust's sole function is to carry out the remediation of hazardous substances – primarily volatile organic compounds - resulting from dry cleaning establishments formerly operating at Lincoln Center. Therefore, as the provisions of the NCP bind the Trust, the protection of California's water resources is an important objective of the Trust. The Trust's comments offer several clarifications, as well as raising concerns the Trust has regarding several of the provisions of the Draft Permit and TSO. These comments result from the stated objective of the Trust's objective - the remediation of the Lincoln Center site.

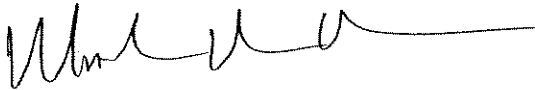
The Trust operates a soil vapor and groundwater extraction and treatment system at Lincoln Center. The system has removed more than 10,000 pounds of PCE from soil and groundwater since its start up in 1998, and the Trust is presently evaluating the potential for expediting site remediation by further expanding the groundwater treatment system. Of particular concern are the Draft Permit's restrictive water-quality based effluent limits for constituents derived from ambient groundwater. The Trust believes that the Trust's discharge of cleansed groundwater containing residual amounts of these constituents not to pose a significant threat to the quality of the receiving water. Additionally, the Trust strongly believes that if the effluents limits are

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imposed as described in the Draft Permit such imposition clearly has the potential to threaten the continued operation as well as the potential expansion of the soil vapor and groundwater extraction and treatment system at Lincoln Center.

The Trust's comments are detailed in the enclosed analysis. We appreciate the opportunity to provide these comments and look forward to discussing them in more detail at our meeting on March 4 at your offices. If you or any Regional Board staff have questions regarding these comments prior to our meeting, please do not hesitate to contact me at 510-237-1782 or Katharine Wagner, the Trust's counsel, at 916-444-1000.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark A. Adams', followed by a long horizontal line.

Mark A. Adams, R.G., Trustee
Lincoln Center Environmental Remediation Trust

Enclosures

cc: John Russell, CVRWQCB

Comments of Lincoln Center Environmental Remediation Trust Regarding
Tentative Waste Discharge Requirements (NPDES No. CA 0084255) and Tentative
Time Schedule Order issued January 10, 2005

Thank you for the opportunity to comment on the Tentative National Pollutant Discharge Elimination System ("NPDES") Waste Discharge Requirements ("Draft Permit") and Tentative Time Schedule Order ("TSO") circulated for public comment by the California Regional Water Quality Control Board ("Regional Board") on January 7, 2005, for discharges of treated groundwater by the Lincoln Center Environmental Remediation Trust (the "Trust"). The Trust requests that you review these comments and make the revisions requested to the Draft Permit and TSO in order to conform to applicable law and ensure a reasonable permit that will enable the Trust's remediation project to continue to serve the public interest. Without these revisions, the remediation project conducted by the Trust is threatened with major interruption and, potentially, loss of effective soil vapor and groundwater remedial alternatives without corresponding significant benefit to surface water.

INTRODUCTION

The Trust was created in 1999 after many years of contentious litigation between the owner of the Lincoln Center shopping center and the dry cleaners (and insurance companies ultimately representing them in the litigation) that had operated there through the years. Perchloroethylene ("PCE") solvent contamination was first discovered in 1984 during testing of water supply wells located on the shopping mall property.¹ Once discovered, the wells were shut down and the long process of litigation began. The ensuing years saw little progress towards remediation and untold millions were spent on litigation. Finally in 1999, the United States District Court for the Eastern District of California created the Trust, directing the Trust to determine, generally within the guidelines outlined in the National Contingency Plan (the "NCP"), a suitable remedial plan for the Site. The parties to the litigation funded the Trust with a remedial insurance policy. This policy remains the sole source of funding for the remedial efforts at the Site. As described in detail below, a critical component of the PCE remediation project at the Site is the groundwater extraction and treatment system regulated under the NPDES permit proposed for modification in the Draft Order.

The Trust is extremely concerned with the water quality-based effluent limits added to the permit for constituents derived from ambient groundwater and likely of natural origin. These proposed requirements threaten to interrupt or discontinue containment and removal of PCE by active groundwater treatment at Lincoln Center. The Trust is concerned with the Draft Permit's assumptions regarding the existence of a municipal drinking water beneficial use ("MUN") for, and concerns regarding impacts of the treated groundwater discharge on, Fourteen Mile Slough (the "Slough"). The Draft Permit applies the MUN beneficial use at the point where a stormwater pump discharges the treated groundwater into the very head of the Slough, despite the fact that the Slough is

¹ The Lincoln Center property and affected nearby properties are referred to as the "Site."

not used for drinking water and is completely unsuitable for such use. Drinking water-based objectives are applied at the point of discharge from the groundwater treatment system to the storm drain, without adjustment for potential dilution or other attenuation that would, certainly, occur before any potential use of the water for drinking.

The Draft Permit applies secondary drinking water standards, which pertain to the taste and odor characteristics desired in drinking water at the tap, via an overly stringent interpretation of the narrative objective for chemical constituents in the Basin Plan. These standards include application of the lowest “recommended” level the secondary MCLs cite for electrical conductivity (salinity), and secondary MCLs for iron and manganese. In addition, by the application of the MUN use with no benefit of dilution before drinking water use, which is unrealistic in this case, the Draft Permit has applied the new U.S. Environmental Protection Agency MCL for arsenic end-of-pipe.

As detailed below, this approach represents both an inappropriate designation of the MUN beneficial use and an unnecessarily and inappropriately stringent approach to protecting such use, even if the Slough were to have been validly designed MUN. The fact is that the Trust's discharge cannot be reasonably expected to actually impact any current or future uses of the water for drinking. Given the temporary nature of the treatment system's operation, and the overwhelming benefit of the treatment system in restoring drinking water uses for the groundwater affected by carcinogenic constituents, the Regional Board should revise the Draft Permit to remove the effluent limits based on the MUN use for the Slough.

Again, it is critical to understand that the problematic new effluent limits proposed for the Draft Permit, which the Regional Board acknowledges cannot feasibly be met by the treatment system, are for constituents that exist in the groundwater and which have no connection to past or present activities by the Trust. These constituents likely derive from natural geologic sources. Thus, the Draft Permit would jeopardize completion of necessary treatment for carcinogenic solvents in groundwater, in order to protect a fictional concept of potential drinking water use of Slough water. Again, in some cases, this is a requirement to improve the taste and odor of the discharge. The Regional Board clearly should consider every opportunity to make these effluent limits more reasonable, given the stark and obvious priority that should be accorded the treatment of solvent-impacted groundwater.

Creation of the Trust and Mandate for the Trust's Remediation Activities by Order of the United States District Court

The Trust's sole function is to carry out the remediation of volatile organic compound hazardous substances (“VOCs”) in soil and groundwater under and in the vicinity of Lincoln Center, located in an unincorporated area of San Joaquin County near the City of Stockton, California (the “Remediation Project”). The Trust was formed by order of the U.S. District Court for the Eastern District of California (the “District Court”) in the case *Lincoln Properties, Ltd., v. Norman Higgins, et al.*, Case No. CV-S-91-760-DFL-GGH. See Amended First Final Consent Decree, Final Order, Final Judgment and Order

Terminating Permanent Injunction (filed on interim basis June 4, 1999, and by final order filed May 16, 2001) (the "Consent Decree"), attached hereto as **Exhibit 1**.² Pursuant to the Consent Decree and attached Trust Declaration, the District Court appointed Mark A. Adams as sole Trustee of the Trust. *See* Consent Decree § V.B. The Consent Decree represented a complete settlement of litigation commenced ten years earlier, in 1991, concerning site remediation.

The Consent Decree's intent in placing responsibility for remediation in the Trustee is to ensure independent direction of the Remediation Project.³ The Consent Decree dictated that the Trust assume sole authority and obligation to carry out the Remediation Project, with specified funding for the project by an insurance policy (the "Site Response Insurance Policy"),⁴ and provision of an administrative fund of a specified amount, to be used for administration of the Trust.

The District Court's purpose in creating the Trust, with specified funding for the Remediation Project, was to "establish a framework to provide for the prompt, efficient and cost-effective response to the contamination at and emanating from the Site so as to assure adequate protection of public health, welfare and the environment." Consent Decree, p. 2. The Consent Decree designated the Regional Board as lead agency for purposes of review of Remediation Project activities, and the Regional Board has taken an active role in encouraging expeditious implementation of cleanup at the site, and commenting on the appropriateness and direction of the activities.⁵

The work the Trust must carry out includes constructing, operating and maintaining remedial actions pursuant to remedial action plans approved by the Consent Decree or otherwise by order of the District Court, including interim remedial action plans or final remedial action plans. *See* Consent Decree §§ III.C, III.J, IVA. The groundwater extraction and treatment system, discharge from which is addressed in the Draft Permit, is governed by two interim remedial action plans. The first is a Phase I Interim Remedial Action Plan, originally approved by the District Court in earlier proceedings and incorporated into the work to be carried out by the Trust under the Consent Decree. *See* Phase I Interim Remedial Action (IRA) Detailed Plan for Lincoln Center, Stockton, California, dated February 27, 1998; Consent Decree § III.C (noting Work governed by

² The Consent Decree replaced and superceded prior orders of the Court directing the remediation of the Site, which included the "Permanent Injunction Governing Investigation, Monitoring, and Testing of Hazardous Substance Contamination at and Emanating from Lincoln Center and Order of Reference to Special Master" filed August 16, 1993, and the "First Final Consent Decree Order, Judgment and Reference to Special Master," filed January 18, 1996. The Consent Decree directed formation of the Trust under the terms of a Declaration of Trust attached to and incorporated into the Consent Decree.

³ Pursuant to sections V.C and VI.A.13 of the Consent Decree, the Trust designed LFR Levine Fricke as Prime Contractor for the Remediation Project.

⁴ Lincoln Center Environmental Remediation Trust Pollution Legal Liability Select Policy, number EPP2673166, issued by American International Specialty Lines Insurance Company (AISLIC), effective August 1, 1998 in the form attached as Exhibit A to the Consent Decree.

⁵ We request that the Regional Board's file of documents pertaining to review of the Remediation Project be entered into the record of this permit proceeding, including but not limited to the documents named on the list of Remediation Project documents attached hereto as **Exhibit 2**.

previous judicial orders applicable to the Work, as described on Exhibit C attached to the Consent Decree).

The second interim remedial plan governing the groundwater treatment system is the Phase III Interim Remedial Action Plan. The Phase III IRA is described in the "Proposed Phase III Interim Remedial Action Detailed Plan, Lincoln Center, Stockton, California," dated April 2, 2001, and approved by the District Court. The new groundwater extraction wells and the extraction system were tied into the existing Phase I system. Startup of the expanded groundwater treatment system was completed in June 2002.

Another integral component of the Court-approved interim remedial action at the Site is soil vapor extraction and treatment, which was commenced in 1999, with the objective of reducing the mass of VOCs, primarily in soil and groundwater at or near source areas. See, Phase II Interim Remedial Action Detailed Plan, Lincoln Center, Stockton, California, dated May 14, 1999.⁶ the soil vapor extraction and treatment system ("SVETS") and the groundwater treatment system are designed to work together to achieve coordinated reductions of VOCs.

The discharge of treated groundwater to the storm drain is the specific, and only, Court-approved method of managing treated groundwater at the Site. The type of groundwater and soil vapor treatment methods approved by the Court are also limited to the systems described in the Interim Remedial Action Plans, which are currently in place.

The Groundwater Extraction and Treatment System

As noted above, the Trust operates a groundwater extraction and treatment system in accordance with court-approved Interim Remedial Action Plans. The Phase I system has two objectives. First, its primary objective is to minimize the migration of A-zone groundwater containing relatively high concentrations of detected hazardous substances, by encompassing the portion of the VOC plume along the downgradient property boundary of Lincoln Center. A secondary but equally important objective is mass removal of hazardous substances from groundwater, in anticipation of final cleanup goals to be established as part of the final remedial action plan for the Site.

The Phase I groundwater extraction system consists of 17 A-zone groundwater-extraction wells spaced at approximately 100-foot intervals along the eastern property boundary of Lincoln Center, adjacent to Pacific Avenue. The groundwater is pumped via a double-contained conveyance pipeline that connects the 17 groundwater-extraction wells to the treatment system. A 5,200-gallon high-density-polyethylene equalization tank serves to moderate surges in flow and to provide steady water flow through the treatment system. Transfer pumps move the groundwater from the equalization tank through a low-profile air stripper and two liquid-phase carbon-adsorption canisters (connected in series) before

⁶ The soil vapor extraction system ("SVETS") is comprised of 35 soil-vapor extraction (SVE) wells and 22 soil-vapor monitoring wells. The SVETS was constructed according to the "Construction Specifications and Bidding Documents for Phase II Interim Remedial Actions" and "Plans for Phase II Interim Remedial Action Soil-Vapor Extraction and Treatment System," dated May 13, 1999.

discharging the treated water to the storm-water drain inlet located within the treatment system compound fencing.

The soil vapor and groundwater extraction and treatment system was subsequently expanded in 2002, pursuant to the Phase III Interim Remedial Plan. The Phase III interim remedial action included the addition of six B-zone extraction wells along the eastern boundary of Lincoln Center, adjacent to Pacific Avenue, and four B-zone and six A-zone extraction wells downgradient from Lincoln Center, along Inglewood Avenue, spaced at approximately 150 to 200 foot intervals. Groundwater extracted from these wells is transported via additional conveyance lines to the treatment system constructed as part of the Phase I interim action. The objectives of the expanded system are to address residual PCE concentrations in downgradient A-zone groundwater and on-site and downgradient B-zone groundwater.

By any measure the interim removal actions have been very successful in the removal of hazardous substances at the Site. As described in the most recent NPDES reports filed by the Trust, the Trust calculates that a total of 3,544.5 pounds of PCE have been removed from groundwater to date.⁷ Additionally, the SVET has removed 7,126 pounds of PCE from the vadose zone above the groundwater table at Lincoln Center.

As described in the Draft Feasibility Study for the site, the Trust is evaluating the possibility of expanding the soil vapor and groundwater extraction and treatment systems to aggressively address "source area" contamination at the Site. This area of high concentrations has been the subject of two separate pilot study efforts, the most recent pilot study for evaluating the possibility of implementing dual-phase extraction.⁸ The results were encouraging and the Trust is presently examining the feasibility of such implementation. Expansion of the soil vapors and groundwater extraction and treatment system operation via the implementation of dual phase extraction in the source area has emerged as an important part of the preferred final remedial alternative. However, dual phase extraction would potentially increase the volume of extracted water from the Site from the present operating volume of 240 gallons/minute to 700-800 gpm. It is the Trust's grave concern that such implementation would be essentially prohibited, both on the basis of cost as well as technology, given the constraints of this Draft Permit. Adoption of the Draft Permit seriously affects the technical feasibility and cost effectiveness of this dual-phase approach and could result in elimination of the potential expanded soil vapor and groundwater extraction and treatment system from the final remedial action plan for the Site.

Alternative Use or Disposal of Groundwater Treatment System Discharges, and Costly Additional Treatment, is Not Provided for in the Court-Approved Interim Remedial Action Plan, Nor has it been Found to Be Feasible

⁷ See Combined Quarterly NPDES Report for October 1 through December 31, 2004 and Annual NPDES Report for January 1 through December 31, 2004 filed on February 15, 2005.

⁸ These pilot studies are described in the following two reports: GZVI Pilot Study Report Historical Source Area, Lincoln Center, Stockton, California, January 14, 2004; Results of Dual-Phase Extraction Pilot Test Historical Source Area Lincoln Center, Stockton, California, January 31, 2005.

Achieving the unnecessarily stringent discharge requirements described in the Draft Permit appears infeasible. It appears that any modifications required to meet the new limits would, at a minimum, be tremendously costly and likely require the use of significant amounts of additional property than the Trust has any rights to use. Therefore, the Trust and the public are presented with a Hobson's choice between continued operation of this critical component of the Remediation Project or violation of new permit provisions.⁹

As described above, the Trust is required by the Consent Decree to operate the soil vapor and groundwater treatment system in accordance with court-approved interim remedial plans. Any requirement of a new NPDES permit that would fundamentally alter the operation or design of the system is inconsistent with the interim remedial plans, and, thus with the Consent Decree.

There does not appear to be any feasible and cost-effective alternatives available for disposition of the groundwater produced by the groundwater treatment system. The Trust's prime contractor, LFR, has drafted, and the Trust has circulated for public comment, a Draft Feasibility Study addressing final remedial actions for the Remediation Project. Draft Feasibility Study, Lincoln Center, Stockton, California. May 5, 2000. Subsequent to its circulation, the Draft Feasibility Study has been further amended and provided to the Regional Board and other parties for comment. *See Revised Draft Feasibility Study*, August 2, 2002 ("Draft Feasibility Study"). The Draft Feasibility Study addresses the feasibility of alternative approaches for handling treated groundwater produced by the groundwater treatment system.

Costs are likely to be much higher than estimated in the Draft Feasibility Study, due to the passage of time and certain assumptions in the analysis, which may not now apply. Notably, the feasibility of alternative approaches to handling treated groundwater produced by the system is also affected by land constraints and the likelihood and difficulty of obtaining timely rights and agreements for the use or reinjection of the water. The revised Draft Feasibility Study discusses discharge options potentially available to the Trust. Briefly stated, the options fall into to categories: 1) disposal, *i.e.*, discharge to the local publicly-owned treatment plant (POTW) or to surface water under a NPDES permit; and 2) reuse or re-injection of discharged water.

Discharge to the City of Stockton POTW could potentially be utilized by the Trust. For this option, the effluent would flow through both the regional San Joaquin County and City of Stockton sanitary-sewer system for treatment at the City of Stockton POTW. Accordingly, disposal of groundwater into the sanitary sewer would require the approval of the San Joaquin County Department of Public Works, and a discharge permit from the City of Stockton Municipal Utilities Department's Environmental Control Division.

⁹ This choice is actually only a delusion. If the Regional Board believes that the discharge can only legally proceed under the terms of the Draft Permit, then the Trust's authority would not appear to extend to operating in violation of the adopted permit, leaving only the choice of shutting down the beneficial system.

Preliminary discussions with the City of Stockton ("City") in 2000, during the development of the Draft Feasibility Study, indicated that the City would not have approved a permit for long-term groundwater discharge, partly because of hydraulic limitations and limited headworks capacity currently available at the City's facilities. This type of long-term discharge permit has not been approved previously by the City and is unlikely to be approved. The Trust revisited this option informally in December of 2004 and received no indication that the City's position had changed.

Even if such permitting issues could be overcome by the Trust, the costs of discharging to the sanitary sewer are prohibitive. Based on recent discussions with the City, the costs of a connection fee and use fee (based on volume) would be on the order of \$42,000 per month or \$500,000 per year for the current discharge of 240 gallons per minute. If the Trust proceeds and implements a dual-phase extraction system in the source area of the Site, resulting in an increase of discharge to 800 gallons per minute, the fees charged by the City rise to \$112,000 per month and a corresponding \$1,344,000 per year. Clearly these costs are prohibitive in as much as the annual discharge fees would surpass the total capital cost of implementation. The Trust also wishes to emphasize that these costs are in addition to costs required to operate, maintain, and monitor the groundwater treatment system.

Faced with the above constraints for discharge to the sanitary sewer, the Trust chose the second groundwater disposal option noted above: to discharge system-treated water into the storm drain system at Lincoln Center, which flows to the southwest and eventually into the Slough. Discharge to the San Joaquin County storm drain has been established as a part of the Phase I IRA and is governed by the Trust's existing NPDES permit. Effluent from a treatment system requires monitoring to demonstrate compliance with discharge limits established through the permitting process. Through December 31, 2004, over 374 million gallons of treated groundwater have been disposed of in this manner.

In the course of providing the Regional Board these comments, the Trust investigated storm water sewer routes to an alternative discharge location to surface waters. While an alternative storm water discharge route has been identified, it would require the Trust to install conveyance piping in the City of Stockton and the County of San Joaquin right of way, a distance of over 4,000 feet to the southeast, to the Calaveras River. Directing the treated groundwater to the Calaveras River would be immensely costly, and present no real benefit to water quality.

Regarding reuse of the discharged groundwater, the Trust considered the reuse of discharged water for landscape irrigation and groundwater recharge. Treated groundwater could be reused with irrigation distribution systems on or near the Site. If the entire volume of extracted water cannot be used, an alternative discharge option would be used for the excess water. However, because the Site is an operating shopping center, consisting of buildings and vast parking lots, there is a very limited amount of landscaped space at the Site relative to the quantity of water that is being generated from the remedial activities. It is unlikely that landscaping at the Site could use the entire

volume of treated water. Additionally, the risk of failure or breakthrough at the treatment system may be unacceptable for this type of application. The Trust was presented just such an opportunity for reuse when a major tenant at the site installed new landscaping at the site. Although initial discussions seemed promising, the tenant declined the Trust's offer to provide irrigation water at even a discount rate over municipal supply.

Reinjection was also considered utilizing such techniques as reinjection wells, infiltration galleries, or trenches to return treated water back to the subsurface. The primary limitations of reinjection wells are the relatively small cross-sectional area available for reinjection and the tendency of the well screen and the surrounding formation to become clogged with scale and biogrowth during long-term reinjection. Other reinjection options include using infiltration galleries and trenches that are constructed at the surface to return water to the vadose zone, allowing the water to percolate downward to resupply the uppermost water-bearing zone. The advantage of infiltration galleries and trenches is that the length and width can be varied to greatly increase the available surface area for infiltration or reinjection. Reinjection is generally used to enhance containment of a chemical plume, to restore water to a depleted aquifer, or when surface discharge is not feasible.

The effectiveness of reinjection can be high if enough wells or trenches are constructed to reinject all treated groundwater or if reuse of all of the treated water is feasible. However, there are significant technical limitations associated with reinjection, such as scaling and biofouling of the reinjection equipment and the formation adjacent to the well, gallery, or trench, which could cause reduced effectiveness relatively quickly (within months).

The Trust determined that reinjection was infeasible, as there would be substantial problems at the Site associated with the location of dozens of injection wells that would be required to reinject the anticipated large volume of extracted groundwater requiring treatment. Injection wells could not be located on Lincoln Center property, because the reinjection would likely cause changes in the piezometric surface that could detrimentally affect the distribution of detected hazardous substances, as well as the effectiveness of the Phase I IRA extraction system. The possibility of securing offsite parcels on which to construct such well fields or infiltration galleries would entail the securing of access, the payment of fees associated with access, potentially purchasing such properties. In addition, substantial costs beyond the capital costs of well installations or gallery construction would be incurred to install conveyance piping and distribution equipment, depending on the location of such parcels to the Site.

General Comments on Hydrology and Beneficial Uses of Fourteen Mile Slough

Fourteen Mile Slough (the "Slough") is identified as a dead end, tidally-influenced slough. *See* Draft Permit, Finding 18. The eastern end of the Slough is the dead end. The County's storm drain (which contains the Trust's discharge) discharges near the dead end portion of the Slough. From the dead end, the Slough travels approximately 7 miles to the San Joaquin River. From this point on the San Joaquin River, the closest drinking water intakes are an additional 11 to 22 miles (11 miles to Los Viqueros, 20 miles to Clifton

Forebay and Contra Costa Water District intakes, and 22 miles to Delta Pumps). *See* map showing locations of drinking water intakes, attached hereto as **Exhibit 3**. Given the hydraulic patterns in the Delta, and that these intakes are not clearly downgradient of the Slough, it is not clear that whether water from the Slough actually reaches these intakes.

In addition to the distance between the Trust's point of discharge and intakes for municipal drinking water supply, it is important to note that the permitted volume of the Trust's discharge is 430,000 gpd, or approximately 0.6 cfs. This discharge of less than 1 cfs is small in relationship to the volume of water in the Slough downgradient of the stormwater outfall location and the San Joaquin River. Consequently, the likelihood that 0.6 cfs of water discharged to the eastern portion of the Slough reaching the drinking water intakes in the Delta is minimal to impossible. It is also inconceivable that new, closer intakes will be installed within the lifetime of this system, if ever. However, despite this unlikely scenario, the Draft Permit contains stringent effluent limits for a number of constituents based on application of a municipal and domestic supply ("MUN") beneficial use to the Slough. (*See infra* pages 15 -18, regarding the inappropriateness of application of MUN to the Slough.)

The Regional Board has denied the Trust the benefit of dilution based on observations that there is pooled water, but no discernable receiving water flow, immediately downstream of the outfall location. The lack of a receiving water flow would further indicate that groundwater treated and discharged by the Trust into the Slough does not reach the closest drinking water intakes located at least 18 miles away (the Los Vaqueros Intake). Furthermore, if the water is pooled, even during times associated with the outgoing tide, it is possible that the water is recharging the groundwater aquifer from which it originally came prior to treatment for VOCs. Consequently, the groundwater may be recharged with the same level of water quality currently contained in the ground, minus the harmful VOCs.

Due to the weak hydrologic connection between the Trust's minimal discharge and flows to the San Joaquin River, the establishment of effluent limitations for protection of a non-existent MUN beneficial use in the Slough is unnecessary and inappropriate for this discharge of treated groundwater. As applied to this discharge, the limitations imposed will not likely provide any meaningful protection for drinking water supplies pumped out of the Delta at least 18 miles away. In contrast, such limitations may ultimately require discontinuation or impairment of important remediation of volatile organic compounds, or at a minimum, extremely costly modifications that will drain critical resources from this Court-ordered remediation project.

Furthermore, the groundwater and surface water in this region can reasonably be seen as part of a larger watershed, in which the two combine when viewed in the larger scale. The extracted groundwater is part of regional groundwater basin connected hydrologically to, and flowing ultimately toward, the San Joaquin River, the same waterbody which receives the extracted discharge. *See* Remedial Investigation Report, Lincoln Center, Stockton, California December 10, 1999; Page, R.W., Geology of the Fresh Ground-Water Basin of the Central Valley, California with Texture Maps and

Sections, U. S. Geological Survey Professional Paper 1401-C, 1986, p. 54. This regional groundwater is affected by the same regional geology that produces the constituents in groundwater being extracted by the groundwater treatment system. While the direct extraction and discharge changes the pattern of mixing in the immediate area, temporary discharge of 0.6 cfs cannot be said to add salt and mineral load in a manner which will unreasonably impair beneficial uses of Delta waters. The groundwater constituents are not being moved to the Delta from an outside watershed or system that does not already connect to the Delta

The Interruption of Groundwater Extraction and Treatment System Operation, and Requirements Rendering it Potentially Cost-Prohibitive, is Inconsistent with Overriding Considerations of the Protection of Public Health, the Consent Decree, the NCP, and State Policies

The Consent Decree dictates that the Remediation Project be conducted timely, completely and cost-effectively, and in a manner that protects and preserves its finite source of funding. It requires that the Project be carried out consistent with the National Contingency Plan ("NCP"), which contains specific procedures to ensure the protection of public health and the environment by expeditious and effective remediation of hazardous substances in soil and groundwater. 40 C.F.R. Part 300.

The NCP is a detailed set of regulations promulgated by U.S. EPA that sets forth standards under which contaminated properties are required to be characterized and cleaned up. The NCP's key objective is to secure a "CERCLA-quality cleanup." 40 CFR § 300.700(c)(3)(i); *Morrison Enters. v. McShares, Inc.*, 302 F.3d 1127, 1136 (10th Cir. 2002); *Waste Mgmt. of Alameda County, Inc. v. East Bay Regional Park Dist.*, 135 F.Supp.2d 1071, 1100 (N.D. Cal. 2001). To do so, the action must satisfy the three basic remedy selection requirements of CERCLA section 121(b): it must (1) be protective of human health and the environment, (2) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and (3) be cost effective. 135 F. Supp.2d at 1100; 42 U.S.C. § 9621(b)(1). The NCP expressly states an expectation that U.S. EPA "expects to return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable." See 40 CFR § 300.430(a)(iii)(A), (F).

Consistent with the NCP, the interim remedial actions conducted by the Trust, which use active treatment to remove PCE, are designed to restore beneficial uses of groundwater below the Site. This is also consistent with Regional Board objectives for the Remediation Project. However, there is a limit to the costs that must be expended to pursue particular remedies under the NCP, such that substantial restrictions on the groundwater treatment system may be inconsistent with the mandates of the NCP.

The California Legislature recognized the importance of ensuring prompt and cost-effective remediation of hazardous substances in Water Code § 13307, which requires the State Water Resources Control Board ("State Board") to establish consistent policies and procedures for such remediation activities. These include:

(3) Procedures for identifying and utilizing the most cost-effective methods for detecting contamination or pollution and cleaning up or abating the effects of contamination or pollution;

(4) Policies for determining reasonable schedules for investigation and cleanup, abatement, or other remedial action at a site. The policies shall recognize the danger to public health and the waters of the state posed by an unauthorized discharge and the need to mitigate those dangers while at the same time taking into account, to the extent possible, the resources, both financial and technical, available to the person responsible for the discharge;”

See Water Code § 13307. The State Board adopted Resolution 92-49 to carry out this mandate. Resolution 92-49 addressed the need for cost-effective remedial actions. Res. 92-49, § III. It further provided that actions carried out under that resolution should conform to the provisions of Resolution No. 68-16 of the State Water Board (the Antidegradation Policy) and the Water Quality Control Plans of the State and Regional Water Boards, provided that under no circumstances should those provisions “be interpreted to require cleanup and abatement which achieves water quality conditions that are better than background conditions.” *Id.* Preference is accorded to actions that do not require continued maintenance. *Id.*

Therefore, the State Legislature and State Board have expressed intentions similar to those expressed in the Consent Decree and NCP, such that the Regional Board should accord high priority to systems treating groundwater to achieve permanent and expeditious removal of hazardous substances such as VOCs. For these reasons, the Regional Board should employ its discretion to provide reasonable requirements in this case.

The Provisions of the Draft Permit Addressed in these Comments are Inconsistent with the Mandates of California Law Requiring Consideration of Multiple Factors and Broader Water Quality Concerns

California law requires Regional Boards to “take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, [and] the need to prevent nuisance” when establishing effluent limits in a waste discharge permit. Water Code § 13263(a). In addition, when adopting waste discharge permits, Regional Boards also must consider the provisions of section 13241. *Id.* Section 13241 requires the consideration of the following factors, among others:

1. Past, present, and probable future beneficial uses of water.
2. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
3. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

4. Economic considerations.
5. The need for developing housing within the region.
6. The need to develop and use recycled water.

Cal. Water Code § 13241(a)-(f). Although required under Water Code section 13263(a), the Regional Board failed to consider the required factors contained in Water Code § 13241 during the process of developing the effluent limits contained in the Draft Permit.¹⁰

The Regional Board has omitted any discussion of the substantial economic costs and minimal benefits of the new proposed restrictions in the Draft Permit, as well as their broader environmental impacts and indirect costs. In addition, the Draft Permit does not address the need for continuation, and even potential expansion, of the groundwater treatment system that is removing high levels of volatile organic compounds from the groundwater. The Draft Permit further does not address the present and probable future beneficial uses realistically relevant to the reach of the Slough most affected by the discharge, or conditions that can reasonably be achieved through the coordinated control of factors affecting water quality in the Slough and the Delta. In fact, no consideration has been given to coordinated analysis of water quality needs or controls or the broader environmental impacts of the Draft Permit's provisions, including the impacts of modifications to or suspension of the treatment system.

In addition, improper designation of beneficial uses and the subsequent application of relevant objectives in NPDES permits, basing the permit on guidance criteria not contained in the Basin Plan and ignoring costs and other factors in section 13241 also violates the broad mandates of Water Code section 13000. That provision mandates that waters "shall be regulated to attain the highest water quality which is *reasonable*, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." See Cal. Water Code section 13000 (emphasis added). By designating water bodies without evaluating such site-specific issues such as: 1) the actual uses of the water body, 2) whether the MUN use is even attainable in a particular water body (*i.e.*, effluent dominated water body), and 3) the economic and larger environmental consequences of the application of beneficial uses and improper application of narrative objectives, the Regional Board violated Water Code section 13000.

Basin Plan guidance on the application of water quality objectives mandates that in permitting proceedings such as this, the Regional Board should focus on reasonably

¹⁰When making decisions in an administrative proceeding, the Regional Board is required to undertake an analysis of the evidence and the applicable legal factors or standards, and then set forth its determinations in writing to make clear how it undertook its analysis and reached its final conclusion (*i.e.*, how it came up with the effluent limitations imposed). *Topanga Assn. for a Scenic Community v. County of Los Angeles*, 11 Cal.3d 506 (1974). In the *Topanga* case, the California Supreme Court stated that "the agency which renders a challenged decision must set forth findings to bridge the analytical gap between the raw evidence and the ultimate decision or order." *Id.* at 515. In this case, the Regional Board did not "bridge the analytical gap" between the facts and the requirements imposed.

controllable water quality factors. The Basin Plan lists seven points that apply to water quality objectives, including the following relevant point:

The **second point** is that achievement of the objectives depends on applying them to controllable water quality factors. *Controllable water quality factors* are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, that are subject to the authority of the State Water Board or the Regional Water Board, and that may be reasonably controlled. Controllable factors are not allowed to cause further degradation of water quality in instances where uncontrollable factors have already resulted in water quality objectives being exceeded. The Regional Water Board recognizes that man made changes that alter flow regimes can affect water quality and impact beneficial uses.¹¹

The Regional Board should recognize that ambient groundwater constituents discussed in these comments (such as arsenic, barium, iron, manganese, EC, hexavalent chromium, mercury, and ammonia) are not controllable under the circumstances presented here. In comparison, removal of VOCs by the treatment system is clearly designed to use control measures available to the Trust to address human-caused pollution in waters of the State. Further, Water Code section 13000 requires coordination among water quality control activities of the State, which in this case mandates balancing the benefits of control of VOCs against the unsubstantiated and hypothetical benefits of putting remediation resources into removal of ambient groundwater constituents from the discharge.

Constituents Merely Passing Through from Ambient Groundwater, to the Extent They are Not Caused or Increased by the Treatment System, Should Not be Regulated as "Pollutants" under the Clean Water Act

We urge the Regional Board to recognize the inappropriateness of imposing any effluent limit restrictions on natural groundwater constituents that are merely passed through the Trust's groundwater treatment system.¹² These constituents are not "pollutants" within the definition of the Clean Water Act, and thus are not required to be restricted in the NPDES permit.

An NPDES permit is required for a discharge when five elements are present: (1) a pollutant must be (2) added (3) to navigable waters (4) from (5) a point source. 33 U.S.C. § 1342(b). Clean Water Act ("CWA") section 502(6) defines "pollutant" as follows:

"The term "pollutant" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded

¹¹ See Basin Plan, p. III-1.00.

¹² As described in detail later in the comments, these constituents include arsenic, barium, iron, manganese, EC, hexavalent chromium, mercury, and ammonia.

equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water."

33 U.S.C. § 1362(6). The constituents passing through the groundwater treatment system from the groundwater do not fall into any of the listed items contained in the definition of "pollutant."

In *Association to Protect Hammersly, Eld & Totten Inlets v. Taylor Resources*, 299 F.3d 1007 (9th Cir. 2002) ("*Taylor Resources*"), the Ninth Circuit Court of Appeals found that "the more specific items in the illustrative list of pollutants ... support an understanding of the more general statutory term[s] ... as waste material of a human or industrial process." *Id.* at 1017. The Court in the *Taylor Resources* case rejected a broad reading of the more general terms in the definition, observing that "Under [the doctrine of *ejusdem generis*], when a statute contains a list of specific items and a general item, we usually deem the general item to be of the same category or class as the more specifically enumerated items." The Court found that specific items in the definition clearly relate to products of human or industrial processes.¹³ Here, the constituents that the Regional Board has proposed to stringently regulate naturally occur in the groundwater -- they are not waste products created by human or industrial processes. As a result, these constituents are not "pollutants" as defined under the CWA.

Furthermore, the definition of "pollutant" specifies that a pollutant is a listed type of material "discharged into water." Here, since the constituents naturally occur in the groundwater, they are not *discharged into* the groundwater. Thus, the constituents are not "pollutants." See *Gorsuch*, 693 F. 2d at 171 (Court found that since the dam-induced water quality conditions were not *discharged into* the reservoir's water and since the definition of "pollutants" states that pollutants are "discharged into water," the dam-induced water quality conditions were not "pollutants"). Although the groundwater treatment system transports the constituents, regional groundwater and the San Joaquin River are hydrologically tied and the minerals are part of the same geological conditions affecting area surface water conditions.

For the reasons stated above, it is clear that the constituents that are pumped into the Slough derive exclusively from ambient and likely natural conditions in the area's groundwater. As a result, the constituents are not "pollutants" as defined in the CWA. Therefore, the Draft Permit should not require reduction of these constituents by the Trust.

However, if the Regional Board believes such limitations are necessary, the CWA does not compel the Regional Board to hold the Trust responsible for ambient groundwater

¹³ In this respect, the *Taylor Resources* decision concurs with the reasoning of the District of Columbia Circuit in the *Gorsuch* case, in which the Court pointed out that "[a]s a general rule, a definition which declares what a term 'means' excludes any meaning that is not stated." *National Wildlife Federation v. Gorsuch*, 693 F.2d 156, 173 (D.C.Cir. 1982) ("*Gorsuch*"). Since the list of constituents in the definition of "pollutant" constitutes a restrictive list, any item outside of that list is not a "pollutant" and an NPDES permit is not required for the discharge of those constituents. *Id.*

pollutants that merely pass through its system. Regulations and case law under the CWA recognize that intake credits can be granted in certain circumstances where a discharger adds a pollutant from its operations, but *also* carries to receiving waters additional amounts of the same type of pollutant derived from its intake water.¹⁴

Here, even if one were to consider this to be an operation with the potential to *add* the groundwater constituents, beyond the mere intake and conveyance of the constituents, one hundred percent of the ambient groundwater constituents would be derived from "intake water," and no further reduction of the constituents would be required. Thus, while we strongly believe that no limits would be needed for the problematic constituents in that they do not represent an addition of "pollutants," we note that even if they are considered to be such an addition, the CWA does not compel the Regional Board to set effluent limits that require reduction of the constituents below the levels derived from the groundwater.¹⁵

The Automatic Designation of the MUN Beneficial Use is Contrary to Federal and State Law.

As noted above and in more detail below, all but one of the constituents for which the Trust objects to proposed effluent limits are based on the application of water quality objectives that correspond to an alleged MUN beneficial use for all reaches of the Slough. The Draft Permit specifies that the MUN beneficial use applies to the Slough based on Table II-1 of the Basin Plan. However, review of Table II-1 reveals that the Regional Board noted that MUN is an "existing" use of the Sacramento San Joaquin Delta waters; however, that this notation is expressly subject to Footnote 8, which reads as follows:

"(8) Beneficial uses vary throughout the Delta and will be evaluated on a case-by-case basis."

¹⁴ See 40 C.F.R. §122.45(g) (procedure for intake credits for technology-based limits; permit writer may even waive requirement that intake water be drawn from same body of water into which discharge is made if degradation will not result); 49 Fed. Reg. 37998 (preamble statement that intake water pollutants may also be considered in water quality-based limits); see also Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries at 1.4.4 (showing State recognition of general concept even where priority toxic pollutants are discharged from an operation).

¹⁵ The recent Supreme Court case of *South Florida Water Management District v. Miccosukee Tribe of Indians*, 124 S. Ct. 1537, 541 U.S. 96 (2004), does not conflict with the Trust's comments. In that case, the discharger actively pumped surface water known to carry phosphorus pollutants from identified human farming activities, which then disrupted the downstream ecosystem by stimulating the growth of algae. There was no contention in this case that these constituents were not "pollutants." The Court found that the pump in that case was a "point source" of the identified pollutants from farming activities, despite the fact that the pump itself it did not add them. 124 S. Ct. at 1543. The Court remanded the case for consideration of whether the upstream and downstream waters were distinct in order to confirm whether this point source added pollutants into distinct and separate waters of the United States. The decision never addressed the question of whether particular constituents were pollutants, as this question was not raised below.

This recognition of a case-by-case evaluation is extremely reasonable, given the fact that the Delta consists of a tremendous variety of water bodies within a 1150 square mile area. *See* Basin Plan, p. I-1.00 (describing the nature of the Delta). The Regional Board's automatic application of the MUN beneficial use to the Slough, by reading Footnote 8 out of Table II-1 of the Basin Plan, is contrary to federal and state law requirements regarding the appropriate method for designating beneficial uses, and would constitute the unlawful application of an underground regulation.

In the present case, the Regional Board cannot find the Slough to be suitable, or potentially suitable, for use as a municipal and domestic supply, in light of California Department of Health Services' (DHS) policy establishing acceptable sources for the supply of safe drinking water. DHS policy does not allow the use of "seriously impaired" waters [a DHS specially defined term] as a source of municipal and domestic supply. DHS policy documents include as examples of "seriously impaired" waters all of the following: effluent dominated surface water, water that is predominantly urban storm drainage, treated or untreated wastewater, or agricultural return water. *See* November 5, 1997 Policy Memorandum 97-005, Policy Guidance for Direct Domestic Use of Extremely Impaired Sources. Since the Draft Permit describes the Slough as an effluent dominated water body predominantly comprised of treated wastewater and urban storm water, the Regional Board could not have determined that the Slough is suitable, or potentially suitable, for use as a municipal or domestic supply.

Federal Law Regarding Designation of Beneficial Uses

The Regional Board, as the delegated State agency for purposes of the NPDES Permit program, must adopt state water quality standards (appropriate beneficial uses and corresponding water quality objectives) consistent with federal law. *See* Cal. Water Code § 13377; *see also* 33 U.S.C. §1313; 40 C.F.R. §131.2; 40 C.F.R. §131.10(a) (requiring States to specify *appropriate* uses). Federal law requires that the designation and protection of beneficial uses occur wherever the uses are actually attainable in the particular water body.¹⁶

U.S. EPA supports the States tailoring use descriptions to match site-specific conditions, by ensuring that uses and criteria provide an "*appropriate* level of protection which, to the extent possible, is neither over nor under protective." *See* EPA's Advanced Notice of Proposed Rulemaking ("ANPRM") on Water Quality Standards, 63 Fed. Reg. 36742, 36750 (July 7, 1998) (emphasis added). USEPA has also stated that water quality standards regulation should ensure that States have the flexibility to define the water quality standards and hence the environmental objectives of a water body according to the characteristics of the ecosystem and the needs of the water's users. *See* ANPRM at

¹⁶ Uses are deemed attainable if they can be achieved by the imposition of effluent limits required under Section 301(b) and 306 of the Clean Water Act, and cost-effective and reasonable best management practices for non-point source control. *See* 40 C.F.R. § 131.10(d). Conversely, where controls more stringent than those required by §§ 301(b) and 306 of the Act would result in substantial and widespread economic and social impact, attainment of the use may be *per se* not attainable. *See* 40 C.F.R. § 131.10(g).

36744. Also, in recently issued guidance, U.S. EPA continues to emphasize the importance of tailoring water quality standards to reflect local conditions. “In keeping with their primary responsibility in establishing water quality standards, we encourage States and authorized Tribes to develop and adopt water quality criteria to reflect local and regional conditions” *See* 65 Fed. Reg. 66443, 66449 (November 3, 2000).

Designating beneficial uses without evaluating such significant site-specific issues such as the actual existing and potential future beneficial uses of affected areas of the Slough is inconsistent with the Regional Board’s responsibility under federal law to ensure appropriate (neither overprotective nor underprotective) water quality regulation.

State Law regarding Designation of Beneficial Uses

The imposition of beneficial uses without regard to existing uses or probable future uses of the Slough violates California’s mandate that waters “shall be regulated to attain the highest water quality which is *reasonable*, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.” Cal. Water Code §13000 (emphasis added); *see also* Cal. Water Code § 13240 (requiring the Basin Plan to conform to the policies set forth in Chapter 1, commencing with Section 13000).

By designating water bodies without evaluating such site-specific issues as: 1) the actual uses of the water body, 2) whether the uses are even attainable in a particular water body (*i.e.*, effluent dominated water bodies or ephemeral streams), and 3) the economic consequences of the application of the beneficial use and corresponding stringent criteria that are meant to protect waterbodies with an existing drinking water use, the Regional Board violated both Water Code section 13000 and Water Code section 13240, requiring appropriate beneficial uses be adopted into the Basin Plan. The Regional board further abdicated its responsibility to comply with Water Code section 13241. If the Regional Board had conducted the required analysis and complied with Water Code section 13000, 13240 and 13241, the Regional Board could not have come to any other conclusion but to refrain from applying the MUN use here.

Automatic Application of the MUN Use Would be Inconsistent with the Administrative Procedures Act, Constituting Application of an Underground Regulation

The California Administrative Procedure Act, Government Code sections 11340 *et seq.* (the “APA”), establishes basic procedural requirements for the adoption, amendment or appeal of administrative regulations. The Legislature adopted the APA to “provide a procedure whereby people to be affected may be heard on the merits of the proposed rules.” *See United Systems of Arkansas, Inc. v. Stamison* (1993) 63 Cal. App. 4th 1001, 1010, *review den.*, August 12, 1998. Government Code section 11353 describes the procedural requirements applicable to the adoption or revision of water quality control plans and guidelines.

Before the Regional Board can enforce a revision to the Basin Plan, the Regional Board must obtain approval from the State Board and a certification by the chief legal officer of the State Board that the action to adopt the revised language was taken in compliance with all applicable procedural requirements of Water Code sections 13000 *et seq.* See Water Code § 13246; Gov't Code § 11353(b)(2)(D). The State Board must then submit the revised language to the Office of Administrative Law ("OAL") for review and approval. See Gov't Code § 11353(b)(4). The revised language does not become effective for purposes of state law until and unless the regulatory provisions are approved by OAL, and is not effective for purposes of federal law until approved by U.S. EPA. See Gov't Code § 11353(b)(5); 33 U.S.C. § 1313(c)(3).

By ignoring the clear direction in Footnote 8 to apply beneficial uses to portions of the Delta on a case-by-case basis, which resulted in the new designation of beneficial uses for the Slough, the Regional Board violated the requirements of Government Code section 11353. Thus, the Regional Board's action constitutes imposition of an underground regulation in violation of the APA. The Regional Board does not possess the authority to "read out" sentences from the Basin Plan and then, at some later date, inform those who are regulated that the language of the regulation does not mean what it says and that in fact, it means something entirely different.

General Comments on Sufficiency of Monitoring Data

The Trust is concerned with the Regional Board's insistence on developing effluent limits based on a very small set of monitoring data available for most of the constituents of concern. For most of the trace metals that create compliance concerns for the Trust, and for ammonia, there are at most 5 data points. Five data points for a project that will continue for 10 to 15 years is insufficient for establishing statistically-based ambient conditions and effluent limits. Instead of developing effluent limits with such a limited data set, the Regional Board should defer new effluent limits until additional monitoring data for both the effluent and the appropriate ambient receiving water can be obtained. The imposition of effluent limits in the absence of sufficient data could create anti-backsliding issues for the Trust's project in the future.

Furthermore, due to the tidal conditions in the Slough, some of the ambient data collected might actually simply be reflective of the Trust's effluent. Given the hydraulic characteristics of the area where the discharge occurs, the collection of the ambient sample is actually taken downstream of the discharge point and may therefore have been influenced by the discharge. If that is the case, the ambient data would not be an appropriate reflection of true ambient receiving water conditions in order to properly determine if there is assimilative capacity for some constituents. Because of this concern, we recommend that the Regional Board allow the Trust to move the receiving water monitoring location further downstream into the Slough to ensure that actual ambient conditions are measured instead of effluent dominated receiving water. The Regional Board should defer the imposition of water quality based effluent limits for the constituents addressed in these comments until appropriate data has been collected.

Comments on Individual Constituents

Arsenic – The Trust first notes that the effluent limits for arsenic are based solely on objectives to protect an MUN use of the Slough, the application of which the Trust has explained its objections to above. In addition, arsenic is one of the constituents in the discharge derived exclusively from ambient groundwater, and thus is not a pollutant that should be subject to water quality based effluent limits.¹⁷ Alternatively, if limits are to be imposed, they should be calculated in a manner that does not require the Trust to reduce concentrations of the constituents in the discharge below the amount derived from groundwater. Also, as noted above, imposition of effluent limits should be deferred, because data should be considered inadequate to determine reasonable potential and to calculate effluent limits.

Further, the references used by the Draft Permit for the limits are inappropriate. The Draft Permit has set the Trust's maximum daily effluent limit (MDEL) for arsenic equal to the Table III-1 objective of 10 ug/l (or 0.01 mg/l) as a dissolved concentration. The Regional Board has also included an average monthly effluent limitation (AMEL) for arsenic equal to 10 ug/l, as a total recoverable concentration based on U.S. EPA's MCL for arsenic. The MDEL limit based on the Table III-1 objective is inappropriate given indisputable evidence of the invalidity of the Table III-1 objective of 0.01 mg/l. As explained below, the AMEL based on U.S. EPA's maximum contaminant level ("MCL") is also inappropriate, because the Office of Administrative Law has previously disapproved the use of U.S. EPA MCLs not specified in the Basin Plan. The federal MCL also is not otherwise appropriate for use via the narrative chemical constituents objective.

First, an Appendix to the 1975 Water Quality Control Plan, the document which contained the first table of chemical constituent objectives adopted under CWA Section 303, contains clear evidence that the arsenic water quality objective contained in Table III-1 was intended to be set at 0.1 mg/l instead of 0.01 mg/l. The error in the objective has been copied in successive versions of the Basin Plan ever since.

The 1975 Water Quality Control Plan for the Sacramento River Basin, Sacramento-San Joaquin Delta Basin, and San Joaquin Basin is significant in that it was the first comprehensive water quality control plan for this basin adopted by the State for purposes of compliance with section 303(e) of the Federal Water Pollution Control Act Amendments of 1972. As part of the continuing planning process, states were required to develop water quality control plans for all navigable waters within the state, which included the review and revision of interstate water quality standards and the adoption of intrastate water quality standards.¹⁸ As part of the preparation of the new comprehensive

¹⁷ Arsenic is a common groundwater constituent in the area, and has been detected in groundwater at the Site.

¹⁸ California originally decided to revise its Interim Water Quality Control Plans to a limited extent so that the state could maximize its efforts to complete comprehensive water quality control plans that were already underway due to state law provisions. See Letter to Mr. Paul De Falco, Jr, Regional Administrator, Region IX, Environmental Protection Agency, from Mr. Bill Dendy, Executive Officer, State Water Resources Control Board, October 27, 1972, attached hereto as **Exhibit 4**. However, instead of revising the

basin plans, the State Board advised the Regional Boards that the quality of water necessary for protecting beneficial uses should be assessed on a case-by-case basis, and that the only baselines the Regional Boards must retain were the "Ocean Plan" and "Thermal Plan" criteria.¹⁹ In other words, all other water quality objectives adopted into the 1975 Basin Plans were to be newly evaluated and considered, and varying from objectives contained in the earlier 1971 Interim Basin Plan for the Central Valley required no special formal justification, as they had not been adopted pursuant to the Section 303(e) planning process.

In response to this directive from the State Water Board, the Regional Board reviewed and recommended water quality objectives for adoption into the Water Quality Control Plan for the Sacramento-San Joaquin River Basins, documenting the basis for the objectives in Appendix B.²⁰ Appendix B documents changes in water quality objectives in a table format and includes a descriptive statement regarding the changes made and the reason for the changes. Appendix B was part of the record reviewed by the State Board and U.S. EPA in their review and approval of the 1975 Basin Plan. It was not part of the text of water quality standards approved by U.S. EPA, but was the only support provided for these objectives.²¹ Consequently, Appendix B provides clear evidence of the levels proposed for adoption, and the only levels supported by evidence.

Specifically, Appendix B is in the form of a table that includes three columns to discuss changes to objectives for individual and groups of constituents contained in the Basin Plan. The columns describe the existing objective, the new objective and the reason for the change. The new objective for arsenic shown in Appendix B documents the new objective as 0.10 mg/l. The listed reason for the change from the previous objective contained in the Interim Basin Plan²² was to reflect consistency with the Administrative Code limits for the protection of drinking water. Further, Appendix B states,

Interim Water Quality Control Plans as originally indicated, the state instead made some timely amendments to interstate standards and continued forward with the preparation of comprehensive basin plans, including the adoption of intrastate standards. See Letter to Mr. Paul De Falco, Jr, Regional Administrator, Region IX, Environmental Protection Agency, from Mr. Bill Dendy, Executive Officer, State Water Resources Control Board, March 16, 1973, attached hereto as **Exhibit 5**.

¹⁹ Management Memorandum #20, To Contact List that was mailed Management Memorandum No. 20 without a transmittal, from Thomas E. Bailey, Assistant Chief for Planning, Division of Planning and Research, State Water Resources Control Board, March 21, 1973, attached hereto as **Exhibit 6**.

²⁰ Water Quality Control Plan Report, Sacramento River Basin, Sacramento-San Joaquin Delta Basin, San Joaquin Basin, Appendices, page B-1, attached hereto as **Exhibit 7** ("This appendix documents changes and additions to water quality objectives existing prior to this Basin Plan.")

²¹ Water Quality Control Plan Report, Sacramento River Basin, Sacramento-San Joaquin Delta Basin, San Joaquin Basin, Volume I, page i, (1975), attached hereto as **Exhibit 8**.

²² The Interim Water Quality Control Plan contains a water quality objective for arsenic that applies to the Sacramento-San Joaquin Delta and other specifically identified water bodies as 0.01 mg/l. Appendix B mistakenly lists the existing objective from the Interim Water Quality Control Plan as 0.1 mg/l, an apparent typographical error. (Interim Water Quality Control Plan, Central Valley, Sacramento River and Sacramento-San Joaquin Delta, page 49, June 1971, attached hereto as **Exhibit 9**; Water Quality Control Plan Report, Sacramento River Basin, Sacramento-San Joaquin Delta Basin, San Joaquin Basin, Appendices, page B-2, 1975).

“[t]here is no current technical justification for the 0.01 mg/l As [arsenic] objective. The most stringent As limit recommended in *Water Quality Criteria 1972* for the protection of freshwater beneficial uses is that public water supply sources contain no more than 0.1 mg/l total arsenic. The new objective conforms with this recommendation. The scarcity of data on existing As levels in the basin surface water makes it inappropriate to set more stringent objectives than the 0.1 mg/l for arsenic.”

Based on the language contained in Appendix B, the Regional Board clearly changed the water quality objective for arsenic from 0.01 mg/l to 0.10 mg/l, which was consistent with the drinking water standard for municipal water supplies at that time.

However, it appears that when the Regional Board transferred the water quality objectives for trace constituents from the Interim Basin Plan to the adopted 1975 Basin Plan, the intended change did not occur. As a result, Table III-1 does not properly reflect the objective actually adopted by the Regional Board in 1975. Consequently, the Draft Permit based the proposed MDEL for arsenic on an incorrect and unsubstantiated water quality objective.

In addition, it is inappropriate for the Tentative Permit to impose an AMEL limit for total arsenic based on the federal MCL of 10 ug/l, a standard that has not been incorporated into the Basin Plan, and does not represent a California MCL. In 1994, the Regional Board approved an amendment to the narrative portion of the chemical objective by including federal MCLs. However, when the amendment was reviewed by OAL before becoming final, OAL disapproved this portion of the 1994 Basin Plan Amendment because it failed to meet both the “clarity” and “authority” standards contained in California Government Code sections 11349.1(a) and 11340.1(a), respectively.

OAL determined that incorporating federal MCLs was not sufficiently specific and that it was an inappropriate delegation of power by the Regional Board to a federal agency.²³ With regard to meeting the clarity standard, OAL was concerned that this incorporation-by-reference scheme was cumbersome and that the regulatory provision was not clearly displayed so that it could be easily understood. OAL determined that it did not meet the authority standard because “allowing a Regional Board to incorporate-by-reference future revisions of the Code of Federal Regulations may be an inappropriate delegation of power by the Regional Board to a federal agency.”²⁴ The language of the 1994 Basin Plan was amended accordingly, and any reference to federal drinking water standards found in 40 CFR parts 141 and 143 were stricken from the Basin Plan.

Now, ten years later, the Regional Board proposes to use the federal MCL through an even more confusing, indirect and cumbersome process, by interpreting the Basin Plan's narrative chemical constituents objective. However, the rationale that OAL applied, denying the Regional Board the ability to incorporate a federal standard by reference, applies here as well. In fact, interpreting the narrative standard through a regulation not

²³ OAL File No. 95-0328-01, attached hereto as **Exhibit 10**.

²⁴ *Id.* at page 12.

identified in the Basin Plan even more starkly fails to meet the clarity standard than the original incorporation by reference proposal. Consequently, the use of the federal MCL in this case as suggested by the Regional Board in the Draft Permit is inappropriate and should be disregarded.²⁵

Finally, if the Regional Board believes that it must apply the proposed AMEL, the Trust would suggest that provisions be provided for the Trust to conduct a translator study to address the lack of information in translating a dissolved objective into a total monthly average. Currently, the Draft Permit specifies a monthly average of 10 ug/L as total arsenic based on the secondary MCL of 10 ug/L expressed as dissolved. The use of a translator which reflects the site specific conditions of the Slough, and would not jeopardize the integrity of the water body, may aid the Trust in complying with this objective.

Barium – The Draft Permit has set the Trust's effluent limit for barium equal to the Table III-1 objective of 100 ug/l (or 0.1 mg/l) as a dissolved concentration. There is absolutely no scientific basis for the 100 ug/l objective. To the extent that Table III-1 was designed to protect MUN uses, as it appears, application of this objective would be particularly inappropriate in this case, as discussed above. In addition, barium is another of the constituents in the discharge derived exclusively from ambient groundwater, and thus is not a pollutant that should be subject to water quality based effluent limits.²⁶ Alternatively, if limits are to be imposed, they should be calculated in a manner that does not require the Trust to reduce concentrations of the constituents in the discharge below the amounts derived from groundwater.

Also, as noted above, imposition of effluent limits for barium should be deferred, because existing data should be considered inadequate to determine reasonable potential and to calculate effluent limits. Among other things, receiving water data is taken as a total measurement, while the cited water quality objective is a dissolved metal objective. The findings claim that even with the most liberal translator to translate the total measurement into a dissolved measurement there is still reasonable potential. However, the findings and the fact sheet fail to state what "liberal" translator was applied. Particularly given the questionable use of a conservative coefficient of variability, based on very little data and where it should not be necessary, the reasonable potential analysis lacks appropriate data necessary to compare total measured barium to the dissolved objective.

Furthermore, as in the case of arsenic, there is evidence that the Table III-1 barium objective of 0.1 mg/l is an error, and should actually match the MCL of 1 mg/l. The evidence suggests that the 0.1 mg/l objective was an error carried over from the Interim Basin Plan and in fact the objective adopted in 1975 was supposed to be listed as 1 mg/l.

²⁵ We argue elsewhere in these comments that incorporation by reference of California MCLs is inappropriate as a matter of law. However, we note that in the case of arsenic, if the Regional Board applied the California MCL of 50 ug/l, the discharge would not have "reasonable potential" or require an effluent limit.

²⁶ Analyses of barium in groundwater at the Site showed levels in the same general range as the effluent measurements.

The Regional Board's administrative record for the adoption of the 1975 Basin Plan clearly states that the objective intended to be adopted in the 1975 Basin Plan was 1.0 mg/l. Table B-1 of the Appendices for the 1975 Water Quality Control Plan Report identifies the existing objective before 1975, the new objective and the reason for changing the objective. For barium, table B-1 identifies the existing objective as 0.1 mg/l and the source of the existing objective as the Interim Basin Plan. The new objective consistent with the Administrative Code was identified as 1.0 mg/l. The reason for the change, as stated in Table B-1, was

[t]here is no current technical justification for the 0.1 mg/l Ba [barium] objective. The most stringent Ba limit recommended in *Water Quality Criteria 1972* for the protection of freshwater beneficial uses is that public water supply sources contain no more than 1.0 mg/l barium. The new objective conforms with this recommendation. The scarcity of data on existing Ba levels in the basin surface waters makes it inappropriate to set more stringent objectives than the 1.0 mg/l for barium.

Water Quality Control Plan Report, Appendices, Table B-1, pg. B-2. Based on the language contained in Table B-1, clearly the barium objective in the 1975 Water Quality Control Plan was intended to be 1.0 mg/l, not 0.1 mg/l.

This proposed change is consistent with other evidence in the record for the 1975 Basin Plan. In Management Memorandum #20 issued by the State Board to the Regional Boards and applicable contractors preparing the Water Quality Control Plans, tentative guidelines for evaluating water quality are included. The tentative guidelines for evaluating the quality of raw water used as a source of municipal supplies lists a threshold concentration and a limiting concentration for barium. In this case, the two concentrations in the guideline are the same and are listed as 1.0 mg/l. According to the footnote that corresponds to this guideline, the barium criterion came from the National Technical Advisory Committee, which published the *Water Quality Criteria 1972* mentioned above.

Table III-1 of the Basin Plan has not been amended since it was originally adopted in 1975. Therefore, the Table should accurately reflect the Regional Board's decisions as expressed throughout the administrative record. Based on the record, as described above, the table was apparently not properly edited when it was transferred from the Interim Basin Plan to the final Basin Plan. This unfortunate editorial mistake greatly impacts the Trust's ability to meet an effluent limit for barium.

When compared to the appropriate objective of 1000 ug/l (1.0 mg/l), current monitoring information for total recoverable barium from the effluent does not exceed the objective. The maximum effluent concentration is measured at 340 ug/l, a result well below the objective. While the projected MEC is for 1,598 ug/l, the projected MEC is based on very little data, and therefore cannot reasonably reflect the effluent concentrations that can be

expected, particularly since barium is simply passed through the treatment system from ambient groundwater.

Iron and Manganese – The Draft Permit has set the Trust's daily maximum effluent limits for iron and manganese equal to the Table III-1 objectives of 300 ug/l and 50 ug/l, respectively, as dissolved concentrations. These values appear to be based on the secondary MCLs for these constituents, which, in turn, are designed to protect consumer preferences for drinking water at the tap due to taste, odor and visual characteristics. In addition, the Draft Permit has proposed monthly average limits for total iron and manganese of 300 ug/l and 50 ug/l respectively, based on application of the narrative chemical constituent objective. As discussed above, the concentrations in Table III-1 were designed to protect MUN uses. The Trust objects to the limits on the basis that they are inappropriately based on the MUN beneficial use, as discussed above.

In addition, iron and manganese are clearly constituents in the discharge derived from ambient groundwater, and thus are not pollutants that should be subject to water quality based effluent limits. In fact, preliminary statistical analysis of available groundwater data from groundwater monitoring wells at the Site, as compared to reported effluent values, shows that average concentrations are actually lower in the treatment system effluent than in groundwater, and that, in fact, considerable removal of iron and manganese may be occurring. However, the cost to provide further removal of iron and manganese would be extremely high. While the Trust strongly feels effluent limits are inappropriate, if limits are to be imposed, they should be calculated in a manner that does not require the Trust to reduce concentrations of the constituents in the discharge below the amount derived from groundwater.

Also, as noted above, imposition of effluent limits should be deferred, because existing data should be considered inadequate to determine reasonable potential and to calculate effluent limits. Among other things, receiving water data is taken as a total measurement while the cited water quality objective is a dissolved metal objective. The findings claim that even with the most liberal translator to translate the total measurement into a dissolved measurement there is still reasonable potential. However, the findings and the fact sheet fail to state what "liberal" translator was applied. Particularly given the questionable use of a conservative coefficient of variability, based on very little data and where it should not be necessary, the reasonable potential analysis lacks appropriate data necessary to compare total measured iron and manganese to the dissolved objective.

Furthermore, the MCLs set forth in Title 22 of the California Code of Regulations referenced by the chemical constituents objective apply to public water systems (*i.e.*, water suppliers) and are intended only to apply to drinking water treatment facilities at the tap or point-of-use, not as receiving water objectives. *See* 22 Cal. Code. Regs. §§ 64431 and 64444. Application to surface water discharges results in distorting many of the requirements the Department of Health Services ("DHS") imposed in Title 22 (such as the monitoring and compliance provisions).

It is particularly inappropriate to base effluent limits on secondary MCLs. Secondary MCLs are set for constituents that may adversely affect the taste, odor, or appearance of drinking water, and relate only to consumer "acceptance" or "dissatisfaction" with supplied drinking water. *See* 22 Cal. Code. Regs. § 64449. Iron and manganese "consumer acceptance limits" of 300 ug/l and 50 ug/l, respectively, are found on Table 64449-A.

If a secondary MCL for a constituent contained in Table 64449-A is exceeded, an investigation by DHS and a study by the water supplier is required to determine consumer acceptance or dissatisfaction with the drinking water that does not meet the particular secondary MCL. *See* 22 Cal. Code. Regs. § 64449(d). If there is no water supplied for potable use, as in this case, there are no consumers to be surveyed and, thus, no acceptance or dissatisfaction to measure. In addition, DHS is permitted to waive the requirement to meet these secondary MCLs based upon economic considerations. *See* 22 Cal. Code. Regs. §64449(e). It is unnecessary, and it is certainly inappropriate, to impose end-of-pipe effluent limits based on the recommended levels based on solely on consideration of these non-binding taste and odor requirements.

Finally, the Regional Board's adoption of the water quality objective for chemical constituents, specifying that surface waters designated for use as MUN shall not contain concentrations of chemical constituents in excess of the California MCLs in effect at the time the chemical constituents objective was adopted, and including any prospective, future changes to the MCLs contained in Title 22, violated Water Code sections 13241, 13242 and 13000. *See* Basin Plan at III-3.00. Water Code section 13241 requires the Regional Board to consider the social, environmental, and economic impacts of water quality objectives prior to adoption. No evidence in the record exists to indicate that the Regional Board complied with Water Code section 13241 when it initially adopted the water quality objective for chemical constituents and the corresponding MCLs in effect at that time. At the very least, then, the Regional Board was required to consider the factors set forth in Water Code section 13241 when preparing the Draft Permit, in accordance with Water Code section 13263(a). However, the Regional Board failed to conduct this basic analysis. A program of implementation to achieve compliance with the chemical constituents objective is also absent, in violation of Water Code section 13242.

By using a prospective, incorporation-by-reference method of adopting water quality objectives, the Regional Board is abdicating its responsibility to consider the factors contained in Water Code section 13241 each time a new or more stringent MCL is incorporated into Title 22. Furthermore, through the use of the prospective, incorporation-by-reference method of adopting water quality objectives, the Regional Board is failing to comply with the applicable public notice and participation requirements of the Water Code. Finally, by adopting this method of adopting water quality objectives, the Regional Board failed to comply with Water Code section 13000, providing for reasonable water quality regulation.

The Regional Board incorrectly applies the secondary MCLs as a total objective to the receiving water instead of a dissolved objective. As already mentioned, drinking water

standards for consumer acceptance levels (i.e., taste and odor) apply to tap water. In other words, this is the standard that must be met for these constituents as it is delivered to consumers after federally mandated treatment – not the quality of water that is required before undergoing filtration as required by law. As a result, to determine compliance with the secondary MCL drinking water standard the ambient water quality sample should be measured after filtration or with a turbidity level of less than 1.0 NTU as is required for tap water measurements. Otherwise, the receiving water in the Slough is being required to meet the same quality as tap water, which requires duplication of treatment.

The Tentative Guidelines for Evaluating the Quality of Raw Water Used as a Source of Municipal Supplies, as contained in Management Memorandum No. 20 (**Exhibit 6** to these comments) contains filterable criteria for iron and manganese that match both the site specific objectives contained in Table III-1 and the state adopted Secondary MCLs. The footnote that accompanies these criteria states, “[t]he threshold concentration is in conformity with the 1962 Drinking Water Standards. No limiting concentration is designated because any concentration that might be reached in natural waters would not destroy the use of the water after proper treatment by conventional processes.”

Due to the fact that the Table III-1 objectives and the secondary MCLs all derive from the same drinking water standards, it should be easy to conclude that the water quality objectives derived from secondary MCLs must be applied as dissolved standards rather than total metal standards. In other words, the ambient background concentrations for iron and manganese must be measured as dissolved instead of total to determine whether the treatment system effluent has a reasonable potential to cause an exceedance of the water quality objective, and if there is reasonable potential, to determine if dilution is available. Consequently, if the Regional Board decides to retain any limits for iron and manganese, the Trust requests that any applicable objectives should be applied solely as dissolved objectives as intended.

Specific Conductance/Electrical Conductivity (EC) -- The proposed EC limit of 900 umhos/cm, expressed as a monthly average, is designed to protect MUN uses, and thus is inappropriate as discussed above. Because this limit is based on the lowest “recommended” secondary MCL level, again tied to taste, odor or visual characteristics of drinking water at the tap, it is inappropriate, as described elsewhere in detail. In addition, EC measured in the effluent reflects constituents in the discharge derived exclusively from ambient groundwater, and thus is not a pollutant that should be subject to water quality based effluent limits.²⁷ Alternatively, if limits are to be imposed, they should be calculated in a manner that does not require the Trust to reduce concentrations of the constituents in the discharge below the amount derived from groundwater.

²⁷ Monitoring of groundwater treatment system influent and effluent, documented in reports submitted to the Regional Board pursuant to the existing permit, show that effluent EC is in the same range, but, on average, lower than influent EC. For example, 2004 and 2005 Annual Reports show average EC for effluent and influent measurement collected during 2003 and 2004 are 681 and 756 micro Siemens (uS/cm), respectively.

Also, as noted above, imposition of effluent limits should be deferred, because data should be considered inadequate to determine reasonable potential and to calculate effluent limits. In the case of EC this is particularly true. The Draft Permit determines that there is reasonable potential for EC due to a reported maximum effluent concentration of 1600 umhos/cm. However, all other reported effluent data values for EC range from 680 umhos/cm to 860 umhos/cm, which are below the proposed effluent limit of 900 umhos/cm. The twofold increase in the one data value immediately creates suspicion with regard to this value. EC is a field measurement and at times calibration issues with the field equipment can create inaccurate measurements. It is not possible to determine at this point if such calibration problems may have existed. Furthermore, the relatively small amount of EC data does not allow one to statistically project an estimated effluent concentration with great confidence.

The Draft Permit includes average monthly effluent limits for specific conductance (electrical conductivity at 25° C, a measure of salinity) based on secondary California MCLs") incorporated by reference into the Basin Plan's chemical constituents objective. For reasons stated above, the Regional Board's action was unreasonable and inappropriate. Secondary MCLs are set for constituents that may adversely affect the taste, odor, or appearance of drinking water, and relate only to consumer "acceptance" or "dissatisfaction" with supplied drinking water. See 22 Cal. Code. Regs. § 64449. Electrical conductivity (salinity) is addressed on Table 64449-B in terms of a range of values for recommended, upper, and short term levels. Section 64449 (f) specifically provides that "[f]or constituents shown on Table 64449-B, no fixed consumer acceptance levels have been established." The table describes 900 micromhos as a "recommended" level, 1,600 ug/L as an "upper" level, and 1,500 mg/L as a "short term" level. Neither existing nor new services are required by regulation to be lower in TDS than the 1,600 micromhos upper level. 22 CCR § 64449 (f). For this reason, it is particularly inappropriate to impose such stringent reductions in this case, at such immense costs, in order to require the facility's discharge at the end of pipe to match the "desirable" level which is not even a mandatory drinking water standard. The Basin Plan does not require reduction to this level even if the receiving water is considered to have an MUN use, and certainly does not require it in this instance.²⁸

MTBE -- The proposed MTBE effluent limit of 5 ug/l should be eliminated. Finding 43 of the Draft Order expressly recognizes that the discharge does not have reasonable potential to cause or contribute to exceedances of water quality objectives. The fact that an earlier limit of 35 ug/l existed in the permit is not a valid basis for imposition of a lower limit. Instead, the Regional Board may eliminate the limit and avoid the inference of concern to them, that the permit allows discharges up to 35 ug/l MTBE.

In addition, because this limit is based on the secondary MCL level, again tied to taste, odor or visual characteristics of drinking water at the tap, it is inappropriate, as described

²⁸ Even if 900 micromhos were considered to be an objective for waters designated as MUN under the Basin Plan, the wholesale incorporation of MCLs by this Basin Plan provision violates state law and the Constitution.

elsewhere in detail. Finally, there is no explanation of the basis for imposition of this effluent limit as a daily maximum, which is inconsistent with appropriate procedure for application of drinking water standard-based limits.

Ammonia -- The Draft Permit establishes effluent limits for ammonia based on U.S. EPA's 304(a) guidance criteria for ammonia, via the Draft Permit's interpretation of the narrative toxicity objective in the Basin Plan. The constituent is not identified as coming from any known sources of pollution to the groundwater. Therefore, the permit could not impose requirements that the Trust reduce ammonia below levels in its influent groundwater, but should instead require study of the source of the ammonia and other technical characteristics of the discharge and receiving water noted below. As addressed above, the data collected to date is not clearly representative and reliable, either for the effluent or receiving water. If a limit is to be established, it should be deferred until further monitoring provides a satisfactory basis for effluent limits.

The Regional Board acted improperly by imposing numeric effluent limitations for ammonia in the Draft Permit and TSO through application of the Basin Plan's narrative toxicity objective. The CWA requires states to adopt numeric criteria for *all* toxic pollutants. *See* 33 U.S.C. §1313(c)(2)(B). The Regional Board has failed to comply with this statutory mandate for ammonia. The Regional Board should, instead, adopt numeric ammonia objectives before imposing effluent limits, except in conjunction with an orderly toxicity identification process following whole effluent toxicity exceedances, as described below.

The Basin Plan's narrative toxicity objective states, in pertinent part, that "[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal or aquatic life. . . . Compliance with this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, and biotoxicity tests of appropriate duration or other methods as specified by the Regional Board." Basin Plan at III-8.00. The objective further states, "[i]n addition, effluent limits based upon acute biotoxicity tests of effluent will be prescribed where appropriate; additional numerical receiving water quality objectives for specific toxicants will be established as sufficient data becomes available; and source control of toxic substances will be encouraged." *Id.* (Emphasis added).

The Trust's existing permit already contains, and the Draft Permit continues, such requirements for biotoxicity testing. *See* existing NPDES permit, Provision E.4; Draft Order Provision E.6. Whole effluent toxicity testing performed for the facility has not provided any indication that the effluent causes, or has the potential to cause or contribute to instream toxicity.

The Basin Plan language does not authorize the imposition of effluent limits for specific pollutants, rather, it authorizes "effluent limits based upon acute biotoxicity tests of effluent." *Id.* The remaining provisions of the Basin Plan objective authorizes the adoption of "numerical receiving water quality **objectives** for specific toxicants." Thus, no additional effluent limits are required under this objective.

Furthermore, under the express terms of the objective, before imposing a numeric effluent limitation, toxicity of the receiving waters (Fourteen Mile Slough) caused by a particular substance must be established through biological monitoring, testing, and assessment of the effects that a substance has on aquatic life. However, even then, a numeric effluent limitation can only be imposed through a narrative toxicity water quality objective if the narrative objective contains an appropriate “translation” mechanism, indicating the method by which the narrative objective will be “translated” into a numeric limitation. *See* 40 C.F.R. § 131.11(a)(2) (“[w]here a State adopts narrative criteria for toxic pollutants to protect designated uses, the State must provide information identifying the method by which the State intends to regulate point source dischargers of toxic pollutants on water quality limited segments based on such narrative criteria. Such information may be included as part of the standards. . . .”).²⁹

A narrative “translation” procedure ensures “acceptable scientific quality and full involvement of the public and EPA.” 57 Fed.Reg. at 60853. This requirement also works to provide the public and the regulated community with fair notice of what is expected of dischargers, and to ensure that narrative objectives have clearly stated bounds and a rational basis for their implementation. Without an identifiable translator mechanism, dischargers are simply left to guess how their discharges will be regulated under a narrative objective contained in a Basin Plan. Moreover, absent the requisite translation mechanisms, permit writers lack sufficient guidance for establishing appropriate numeric criteria. The inclusion of a translation mechanism makes certain that permits are not created based on unwritten or underground agency policy.

In the present case, the Basin Plan’s narrative toxicity objective does not contain an appropriately detailed translation mechanism, leading to the conclusion that subjective, arbitrary, or wholly inapplicable limits have been imposed in the Draft Permit through the guise of the narrative toxicity objective. In fact, the “Implementation” section of the Basin Plan provides, “[f]or permitting purposes, it is important to clearly define how compliance with the narrative toxicity objectives will be measured. Staff is currently working with the State Water Board to develop guidance on this issue.” Basin Plan at IV-18.00. Finally, the explanation of the specific translation from the narrative toxicity water quality objective to a numeric effluent limit must be set forth in the NPDES permit.

²⁹ EPA has recognized the need for an appropriate translation mechanism in its Technical Support Document (“TSD”). Specifically, EPA stated, “[t]o ensure that narrative criteria for toxicants are attained, the water quality standards regulation requires states to develop implementation procedures (*see* 40 C.F.R. 131.11(a)(2)). Such implementation procedures (Box 2-1) should address all mechanisms used by the state to ensure that narrative [objectives] are attained. . . .” *See accord* Cal. Water Code §13242. The “Components of an Ideal State Implementation Procedure” for a narrative toxicity objective set forth in Box 2-1 include: “methods the State will use to identify those pollutants to be regulated in a specific discharge, an incremental cancer risk level for carcinogens, methods for identifying compliance thresholds in permits where calculated limits are below detection limits, methods for selecting appropriate hardness, pH, and temperature variables for criteria expressed as functions, methods or policies controlling the size and in-zone quality of mixing zones, design flows to be used in translating chemical-specific numeric criteria for aquatic life and human health into permit limits, and other methods and information that will be needed to apply standards on a case-by-case basis.”

See 40 C.F.R. §124.8(b)(4); *Topanga Association for a Scenic Community*, 11 Cal.3d at 515; *So. California Edison*, 116 Cal. App. at 761.

The Regional Board included specific effluent limits for ammonia based on the narrative toxicity objective without first identifying whether any of these substances are actually causing toxicity in the receiving waters. Instead, without an appropriate translation mechanism established in the Basin Plan or the requisite data, the Regional Board simply applied U.S. EPA 304(a) guidance criteria through the Basin Plan's narrative toxicity objective as the alleged numeric equivalent of that objective. This action ignores the express terms of the Basin Plan, and violates 40 C.F.R. section 131.11(a)(2) and Water Code section 13377.

Furthermore, in applying the U.S. EPA 304(a) guidance criteria as a new, *de facto*, numeric water quality objectives, the Regional Board circumvented the water quality standards-setting process prescribed by the Water Code in violation of Water Code sections 13000, 13241, 13242, 13263(a) and 13377. Finally, the Regional Board failed to comply with the applicable portions of the California Administrative Procedures Act, Cal. Gov't Code section 11340 *et seq.*, when utilizing the U.S. EPA 304(a) guidance criteria via the narrative toxicity objective.³⁰

For the foregoing reasons, the Regional Board should remove any effluent limitations in the Draft Permit and TSO, including ammonia, based upon the narrative toxicity objective until biological monitoring indicates the need for a numeric effluent limit and until the Regional Board adopts an appropriate translator into the Basin Plan pursuant to 40 C.F.R. §131.11(a)(2), in accordance with Water Code sections 13240-13246 and Gov't Code sections 11353 and 11346.3(a).

Finally, even if limits are to be based on existing data and the U.S. EPA 304(a) guidance criteria, the limits are unnecessarily inflexible and overly stringent as described in the Draft Permit. The Draft Permit established the effluent limits based on the highest measured pH and temperature in the receiving water. It then calculates the corresponding ammonia criterion (the lethal form of ammonia is pH and temperature dependent, the higher the temp and pH the lower the criterion has to be to avoid toxicity). To the extent that the Regional Board intends to apply the U.S. EPA 304(a) criterion, its application should be based on the actual conditions (*i.e.*, the pH and temperature are measured and the appropriate criterion is calculated, according to the table in the 304(a) criteria that provides a quick reference). Is it quite unlikely that the highest pH and temperature conditions will occur on the same day, and the likelihood that the Trust can comply is therefore higher, without any reduction of protection to aquatic life.

³⁰ See Cal. Gov't Code §§11353 (prescribing method for adopting water quality objectives in a Basin Plan) and 11346.3(a) (requiring the Regional Board to assess the potential for adverse economic impacts of regulation) (applicable to the Regional Board's action via Cal. Gov't Code sections 11353(b)(4), 11349.3(b), and 11349.1(d)(2)).

Mercury – The California Toxic Rule objective for mercury used in determining the effluent limit for mercury was the “organisms and drinking water” human health objective, corresponding to protection against levels that may be ingested in drinking water as well as fish tissue from the same water body. If present, mercury is one of the constituents in the discharge likely to derive from ambient groundwater, and thus is not a pollutant that should be subject to water quality based effluent limits. Alternatively, if limits are to be imposed, they should be calculated in a manner that does not require the Trust to reduce concentrations of the constituents in the discharge below the amount derived from groundwater.

Imposition of effluent limits should be deferred, because data should be considered inadequate to determine reasonable potential and to calculate effluent limits. First, data are not sufficient to determine that “reasonable potential” has been demonstrated. All results for mercury were reported as “nondetect” except for one effluent sample and one receiving water sample. However, these were not measurements adequate to determine an MEC exceeding the CTR objective.

The analytical laboratory reported 0.11 ug/L mercury as an estimated value (“J”) value, below the 0.2 ug/L laboratory reporting limit, in its analysis of the effluent sample collected on October 7, 2003. LFR qualified this result as “estimated” in reports submitted under the NPDES permit. Mercury concentration in the receiving water sample collected on February 18, 2004 was also reported as an estimated value (0.13 ug/L “J” mercury). The fact that the Draft Permit recognizes that data is insufficient for the calculation of interim limits in the Draft Permit further supports the conclusion that establishment of an effluent limit for mercury, if one is needed at all, should be deferred pending further monitoring and study.

The Trust also requests that the Draft Permit maximum daily limit of 0.05 ug/L for mercury be reflected as a monthly average rather than a daily maximum, because the objective used is a human health-driven objective and warrants longer averaging periods.

Finally, the Trust notes that if the Regional Board believes it must include effluent limits for mercury, given that the MUN use should not applied to the area of the Slough in question here, the “organisms only” objective that is slightly higher (0.051 ug/l) should be the appropriate reference.

Hexavalent Chromium -- Hexavalent chromium is one of the constituents in the discharge derived exclusively from ambient groundwater, and thus is not a pollutant that should be subject to water quality based effluent limits.³¹ Alternatively, if limits are to be imposed, they should be calculated in a manner that does not require the Trust to reduce concentrations of the constituents in the discharge below the amount derived from

³¹ Analyses are not available for hexavalent chromium in groundwater at this time, and only limited analyses have been performed for total chromium, showing the presence of the latter in amounts that could be consistent with hexavalent chromium measurement in effluent. This should be the subject of study before effluent limits are imposed based on the limited data currently available, and because total chromium and hexavalent chromium is known to exist in area groundwater.

groundwater. Also, as noted above, imposition of effluent limits should be deferred, because data should be considered inadequate to determine reasonable potential and to calculate effluent limits.

Copper, Lead, Zinc, Bis(2-ethylhexyl)phthalate, delta-BHC, 4,4' DDT, 4,4' DDE, 4,4'-DDD

All of these constituents were found to have reasonable potential, and therefore required an effluent limitation due to the background ambient concentration exceeding the applicable criterion. However, the ambient background data is suspect due to the influence of the effluent and other storm drain discharges. Before establishing effluent limits based on this ambient data, we recommend that the Regional Board remove the effluent limits for these constituents and allow the Trust to move its ambient monitoring location further downstream.

Findings Based on the Evidence Must be Included to Support Permit Requirements

Orders not supported by the findings, or findings not supported by the evidence, constitute an abuse of discretion. *Topanga Association for a Scenic Community v. County of Los Angeles*, 11 Cal.3d 506, 515; *California Edison v. SWRCB*, 116 Cal. App.3d 751, 761 (4th Dt. 1981); *see also In the Matter of the Petition of City and County of San Francisco, et al.*, State Board Order No. WQ-95-4 at 10 (Sept. 21, 1995). In this case, the requirements contained in the Draft Permit and TSO are not supported by findings, or the findings made are not supported by evidence.

COMMENT ON DRAFT MONITORING AND REPORTING PROGRAM

Groundwater Treatment Plan Startup Monitoring -- The Groundwater Treatment Plan Startup Monitoring requirements on pages 3-4 of the Draft Monitoring and Reporting Program attached to the Draft Order are excessive. These requirements mandate daily monitoring for the first five days of operation after any scheduled or unscheduled shutdown over 72 hours. This monitoring frequency requirement is excessive for a physiochemical treatment system, because the system has been proven to reach operating equilibrium within a few minutes of operation. The Trust requests that no more than one day's monitoring be required after scheduled or unscheduled shutdown.

Comments on the Time Schedule Order

1. Compliance Schedules Are Improperly Included in the TSO Instead of the Draft Permit:

The Clean Water Act ("CWA") defines "effluent limitation" as "any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters . . . including schedules of compliance." See 33 U.S.C. §1362(11) (emphasis added); see also 33 U.S.C. §1362(17); 40 C.F.R. §§ 122.2, 122.4. By including schedules of compliance within the definition of effluent limitation, the CWA clearly anticipated that compliance schedules would be included *within* the confines of a NPDES permit. Similarly, EPA regulations governing the issuance of NPDES permits provide that schedules of compliance are to be placed *within* NPDES permits. See 40 C.F.R. §§ 122.43(a), 122.47(a), 124.6(d)(1)-(2).

State law also provides authority for waste discharge requirements to "contain a time schedule, subject to revision in the discretion of the board." See Cal. Water Code §13263(c). The Basin Plan further provides,

Where the Regional Water Board determines it is infeasible to achieve immediate compliance with water quality objectives adopted by the Regional Water Board or the State Water Board, or with water quality criteria adopted by the USEPA, or with an effluent limitation based on these objectives or criteria, the Regional Water Board may establish in NPDES permits a schedule of compliance. The schedule of compliance shall include a time schedule for completing specific actions that demonstrate reasonable progress toward the attainment of the objectives or criteria and shall contain a final compliance date, based on the shortest practicable time (determined by the Regional Water Board) required to achieve compliance. In no event shall an NPDES permit include a schedule of compliance that allows more than ten years (from the date of adoption of the objective or criteria) for compliance with water quality objectives, criteria or effluent limitations based on the objectives or criteria. Schedules of compliance are authorized by this provision only for those water quality objectives or criteria adopted after the effective date of this provision [25 September 1995].

See Basin Plan at IV-16.00. Importantly, separate enforcement orders issued by the Regional Board that contain time schedules, such as TSOs, do not suspend the final effluent limits and deadlines contained in the underlying NPDES permit, and thus, do not shield NPDES permit holders from administrative and third-party enforcement for non-compliance with the underlying permit. See *Citizens for a Better Environment-California v. Union Oil Company*, 83 F.3d 1111, 1119-1120 (9th Cir. 1996).

Ignoring the ample authority discussed above, the Regional Board failed to include all compliance schedules within the Draft Permit for new or more stringent effluent limitations. Instead, the Regional Board mandated a schedule of actions to achieve compliance with arsenic, specific conductance (EC), barium, iron, manganese, and ammonia in a separate TSO, even though the Regional Board expressly recognized that the Trust could not consistently comply or achieve immediate compliance with the final effluent limitations contained in the Draft Permit.

Most of the effluent limitations with which the Trust cannot immediately comply result from a "re-interpretation" of the Basin Plan's water quality objectives for toxicity and chemical constituents (arsenic, specific conductance, iron, manganese, and ammonia). Even though these objectives were adopted prior to 1995, it is both the State's and U.S. EPA's longstanding policy that in cases where the Regional Board has compliance schedule authority in its Basin Plan, as is the case here, a Regional Board can allow a new schedule of compliance when the State "re-interprets" an existing narrative standard to impose a new or more stringent requirement. *See* State Board Order No. WQ 2001-06 at pgs. 53-54 (pending appeal by Petitioners/Appellants Communities for a Better Environment and San Francisco BayKeeper in *Communities for a Better Environment and San Francisco BayKeeper v. State Water Resources Control Board, et al.*, California Court of Appeal, First Appellate District Case No. A107572); and EPA, Whole Effluent Toxicity ("WET") Policy at pg. 11-13 (July 1994). The EPA's WET Policy specifically allows compliance schedules if two requirements are met: 1) the permit effluent limitation must be based either on a post-July 1, 1977 state water quality standard or a new or revised interpretation of a pre-July 1, 1977; and 2) the applicable water quality standard or implementing regulations must explicitly authorize schedules of compliance. *See* WET Policy at pgs. 11-12 (stating that "Permit writers may find the express authorization in the State statute or water quality standards, water quality planning, or NPDES regulations.").

In this case, most of the effluent limitations with which the Trust cannot immediately comply are being imposed based upon new interpretations of previously adopted narrative water quality objectives for which compliance schedules are authorized. Thus, federal and state law, as well as the Basin Plan's compliance schedule authority, provides the Regional Board in this case with authority to allow compliance schedules in the Trust's Draft Permit. 40 C.F.R. §122.47(a); Cal. Water Code §13263(c).

By not including compliance schedules within the Draft Permit, the Regional Board is unreasonably requiring immediate compliance with effluent limitations the Regional Board knows the Trust cannot consistently comply with. This action violates the CWA, federal regulations, Water Code sections 13000, 13263(c), and 13377, and express provisions of the Basin Plan.

2. The TSO Should Include Interim Limits in Accordance with Water Code § 13385(j)(3) which Secures Exceptions to Mandatory Minimum Penalties

The Trust appreciates the Regional Board's efforts to ensure that the TSO provides statutorily recognized protection from mandatory minimum penalties. *See* TSO at Findings 6, 11, 12, and 13; *see also* Water Code § 13385(j)(3). However, the TSO inadvertently omits a crucial step towards providing protection from mandatory minimum penalties under Water Code section 13385(j)(3) -- that is, the inclusion of interim, performance-based effluent limitations as prescribed by Water Code section 13385(j)(3)(C)(i). *See* Water Code § 13385(j)(3)(C)(i). For this reason, the Trust requests the Regional Board include interim, performance-based limitations in the TSO. The Trust would be glad to work with the Regional Board to develop interim limits for any constituents that are to be addressed in the TSO, after the Regional Board's consideration of the Trust's comments affecting the appropriateness of the limits and of compliance schedules in the Draft Permit instead of the TSO.